

**PCT/US03/18901**

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agc agt gcc tcg gcg gcc cac aca ggg ttg tac act tgc tat tac aac Ser Ser Ala Ser Ala Ala His Thr Gly Leu Tyr Thr Cys Tyr Tyr Asn 90 95 100	703
cac act cag aca gaa gag aat gag ctt gaa ggc agg cac att tac atc His Thr Gln Thr Glu Glu Asn Glu Leu Glu Gly Arg His Ile Tyr Ile 105 110 115	751
tat gtg cca gac cca gat gta gcc ttt gta cct cta gga atg acg gat Tyr Val Pro Asp Pro Asp Val Ala Phe Val Pro Leu Gly Met Thr Asp 120 125 130 135	799
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gta cct gcc tcc tac gac agc aga cag ggc ttt aat ggg acc ttc act Val Pro Ala Ser Tyr Asp Ser Arg Gln Gly Phe Asn Gly Thr Phe Thr 170 175 180	943
gta ggg ccc tat atc tgt gag gcc acc gtc aaa gga aag aag ttc cag Val Gly Pro Tyr Ile Cys Glu Ala Thr Val Lys Gly Lys Lys Phe Gln 185 190 195	991
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cta gaa atg gaa gct ctt aaa acc gtg tat aag tca ggg gaa acg att Leu Glu Met Glu Ala Leu Lys Thr Val Tyr Lys Ser Gly Glu Thr Ile 220 225 230	1087
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atc aaa gtc cca tcc atc aaa ttg gtg tac act ttg acg gtc ccc gag Ile Lys Val Pro Ser Ile Lys Leu Val Tyr Thr Leu Thr Val Pro Glu 265 270 275	1231
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cac cat ggc tca act ggg gga cag acg gtg agg tgc aca gct gaa ggc His His Gly Ser Thr Gly Gly Gln Thr Val Arg Cys Thr Ala Glu Gly 425 430 435	1711
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Lys Pro Arg Tyr Glu Ile Arg Trp Arg Val Ile Glu Ser Ile Ser Pro	
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Asp Gly His Glu Tyr Ile Tyr Val Asp Pro Met Gln Leu Pro Tyr Asp	
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Ser Arg Trp Glu Phe Pro Arg Asp Gly Leu Val Leu Gly Arg Val Leu	
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Gly Ser Gly Ala Phe Gly Lys Val Val Glu Gly Thr Ala Tyr Gly Leu	
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Ser Arg Ser Gln Pro Val Met Lys Val Ala Val Lys Met Leu Lys Pro	
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Met Thr His Leu Gly Pro His Leu Asn Ile Val Asn Leu Leu Gly Ala	
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Cys Thr Lys Ser Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr	
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680 685 690 695	
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His His Pro Glu Lys Pro Lys Lys Glu Leu Asp Ile Phe Gly Leu Asn	
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Ser Leu Tyr Asp Arg Pro Ala Ser Tyr Lys Lys Lys Ser Met Leu Asp	
760 765 770 775	
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Ser Glu Val Lys Asn Leu Leu Ser Asp Asp Asn Ser Glu Gly Leu Thr	



780	785	790	
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795			
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860		870	
tac acc aca ctg agt gat gtc tgg tct tat ggc att ctg ctc tgg gag Tyr Thr Thr Leu Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu	875	880	3055
875		885	
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890			
act ttc tac aat aag atc aag agt ggg tac cgg atg gcc aag cct gac Thr Phe Tyr Asn Lys Ile Lys Ser Gly Tyr Arg Met Ala Lys Pro Asp	910	915	3151
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atc	aag	aga	gag	gac	gag	acc	att	gaa	gac	atc	gac	atg	atg	gac	3616
Ile	Lys	Arg	Glu	Asp	Glu	Thr	Ile	Glu	Asp	Ile	Asp	Met	Met	Asp	
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg  
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Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu  
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Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu  
 65 70 75 80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
 85 90 95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu  
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Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe  
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Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp  
 130 135 140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr  
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Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln  
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Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr  
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Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu  
 195 200 205

Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val  
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Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn  
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Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys  
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Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val  
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Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr  
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Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys  
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Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr  
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Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val  
 325 330 335

Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn  
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Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu  
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Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala  
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Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp  
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Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser  
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Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr  
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Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met  
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Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp  
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Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr  
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 565 570 575  
 Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe Pro Arg Asp Gly  
 580 585 590  
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 Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val  
 610 615 620  
 Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala  
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 Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys  
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 Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys Pro Lys Lys Glu  
 690 695 700  
 Leu Asp Ile Phe Gly Leu Asn Pro Ala Asp Glu Ser Thr Arg Ser Tyr  
 705 710 715 720

Val Ile Leu Ser Phe Glu Asn Asn Gly Asp Tyr Met Asp Met Lys Gln  
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Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg Lys Glu Val Ser  
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Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala Ser Tyr  
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Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp  
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Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr  
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Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His  
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Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val  
 820 825 830

Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met His Asp Ser Asn  
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Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro  
 850 855 860

Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser  
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Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly Gly Thr Pro Tyr  
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Pro Gly Met Met Val Asp Ser Thr Phe Tyr Asn Lys Ile Lys Ser Gly  
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Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu Val Tyr Glu Ile  
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Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr  
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His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys  
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Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser Asp His Pro Ala

965

970

975

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Tyr Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu Gly Gly Leu Asp  
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Glu Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile Ile Pro Leu Pro  
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Arg His Ser Ser Gln Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly  
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Asp Ile Asp Met Met Asp Asp Ile Gly Ile Asp Ser Ser Asp Leu  
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Thr Leu Arg Ser Glu Leu Thr Val Ala Ala Val Leu Val Leu Leu	
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Ala Arg Val Ile Met His Asp Ser Asn Tyr Val Ser Lys Gly Ser Thr			
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Ile Phe Ser Leu Gly Gly Thr Pro Tyr Pro Gly Met Met Val Asp Ser			
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Asn Leu Leu Pro Gly Gln Tyr Lys Lys Ser Tyr Glu Lys Ile His Leu			
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Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala  
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Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp  
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Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr  
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Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His  
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Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val  
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Lys Ile Cys Asp Phe Gly Leu Ala Arg Val Ile Met His Asp Ser Asn  
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Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro  
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920

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Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr  
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Arg Ser Lys Leu Lys Leu Ile Arg Ala Lys Glu Glu Asp Ser Gly His	
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Tyr Thr Ile Val Ala Gln Asn Glu Asp Ala Val Lys Ser Tyr Thr Phe	
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Glu Leu Leu Thr Gln Val Pro Ser Ser Ile Leu Asp Leu Val Asp Asp	
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Thr Ala Arg Ser Ser Glu Lys Gln Ala Leu Met Ser Glu Leu Lys Ile	635 640 645	
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Cys Thr Lys Ser Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr	665 670 675	
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Pro Ala Asp Glu Ser Thr Arg Ser Tyr Val Ile Leu Ser Phe Glu Asn	715	720	725	
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Asn Gly Asp Tyr Met Asp Met Lys Gln Ala Asp Thr Thr Gln Tyr Val	730	735	740	
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Pro Met Leu Glu Arg Lys Glu Val Ser Lys Tyr Ser Asp Ile Gln Arg	745	750	755	
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Ser Leu Tyr Asp Arg Pro Ala Ser Tyr Lys Lys Lys Ser Met Leu Asp	760	765	770	775
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Phe Leu Ala Ser Lys Asn Cys Val His Arg Asp Leu Ala Ala Arg Asn	810	815	820	
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Val Leu Leu Ala Gln Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu	825	830	835	
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Ala Arg Asp Ser Asn Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val	840	845	850	855
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Lys Trp Met Ala Pro Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu	860	865	870	
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Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe  
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Asp Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser Tyr Gly Ile Leu

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870

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825

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His	His	Gly	Ser	Thr	Gly	Gly	Gln	Thr	Val	Arg	Cys	Thr	Ala	Glu	Gly		
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275

280

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Val Ser Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala  
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Ser Tyr Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu  
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Thr Tyr Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys  
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Ile Val Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met His Asp  
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 Phe Leu Val Leu Gly Cys Leu Leu Thr Gly Leu Ser Leu Ile Leu Cys  
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 Gln Leu Ser Leu Pro Ser Ile Leu Pro Asn Glu Asn Glu Lys Val Val  
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Ser Trp Gln Tyr Pro Met Ser Glu Glu Glu Ser Ser Asp Val Glu Ile				
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Arg Asn Glu Glu Asn Asn Ser Gly Leu Phe Val Thr Val Leu Glu Val				
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Ser Ser Ala Ser Ala Ala His Thr Gly Leu Tyr Thr Cys Tyr Tyr Asn				
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cac act cag aca gaa gag aat gag ctt gaa ggc agg cac att tac atc				751
His Thr Gln Thr Glu Glu Asn Glu Leu Glu Gly Arg His Ile Tyr Ile				
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Tyr Val Pro Asp Pro Asp Val Ala Phe Val Pro Leu Gly Met Thr Asp				
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Tyr Leu Val Ile Val Glu Asp Asp Asp Ser Ala Ile Ile Pro Cys Arg				
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aca act gat ccc gag act cct gta acc tta cac aac agt gag ggg gtg				895
Thr Thr Asp Pro Glu Thr Pro Val Thr Leu His Asn Ser Glu Gly Val				
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Val Pro Ala Ser Tyr Asp Ser Arg Gln Gly Phe Asn Gly Thr Phe Thr				
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Val Gly Pro Tyr Ile Cys Glu Ala Thr Val Lys Gly Lys Lys Phe Gln				
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Thr Ile Pro Phe Asn Val Tyr Ala Leu Lys Ala Thr Ser Glu Leu Asp				
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cta gaa atg gaa gct ctt aaa acc gtg tat aag tca ggg gaa acg att				1087
Leu Glu Met Glu Ala Leu Lys Thr Val Tyr Lys Ser Gly Glu Thr Ile				
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Val Val Thr Cys Ala Val Phe Asn Asn Glu Val Val Asp Leu Gln Trp				
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act tac cct gga gaa gtg aaa ggc aaa ggc atc aca atg ctg gaa gaa				1183
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atc aaa gtc cca tcc atc aaa ttg gtg tac act ttg acg gtc ccc gag				1231
Ile Lys Val Pro Ser Ile Lys Leu Val Tyr Thr Leu Thr Val Pro Glu				
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gcc acg gtg aaa gac agt gga gat tac gaa tgt gct gcc cgc cag gct				1279
Ala Thr Val Lys Asp Ser Gly Asp Tyr Glu Cys Ala Ala Arg Gln Ala				
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acc agg gag gtc aaa gaa atg aag aaa gtc act att tct gtc cat gag Thr Arg Glu Val Lys Glu Met Lys Lys Val Thr Ile Ser Val His Glu 300 305 310	1327
aaa ggt ttc att gaa atc aaa ccc acc ttc agc cag ttg gaa gct gtc Lys Gly Phe Ile Glu Ile Lys Pro Thr Phe Ser Gln Leu Glu Ala Val 315 320 325	1375
aac ctg cat gaa gtc aaa cat ttt gtt gta gag gtg cgg gcc tac cca Asn Leu His Glu Val Lys His Phe Val Val Glu Val Arg Ala Tyr Pro 330 335 340	1423
cct ccc agg ata tcc tgg ctg aaa aac aat ctg act ctg att gaa aat Pro Pro Arg Ile Ser Trp Leu Lys Asn Asn Leu Thr Leu Ile Glu Asn 345 350 355	1471
ctc act gag atc acc act gat gtg gaa aag att cag gaa ata agg tat Leu Thr Glu Ile Thr Thr Asp Val Glu Lys Ile Gln Glu Ile Arg Tyr 360 365 370 375	1519
cga agc aaa tta aag ctg atc cgt gct aag gaa gaa gac agt ggc cat Arg Ser Lys Leu Lys Leu Ile Arg Ala Lys Glu Glu Asp Ser Gly His 380 385 390	1567
tat act att gta gct caa aat gaa gat gct gtg aag agc tat act ttt Tyr Thr Ile Val Ala Gln Asn Glu Asp Ala Val Lys Ser Tyr Thr Phe 395 400 405	1615
gaa ctg tta act caa gtt cct tca tcc att ctg gac ttg gtc gat gat Glu Leu Leu Thr Gln Val Pro Ser Ser Ile Leu Asp Leu Val Asp Asp 410 415 420	1663
cac cat ggc tca act ggg gga cag acg gtg agg tgc aca gct gaa ggc His His Gly Ser Thr Gly Gly Gln Thr Val Arg Cys Thr Ala Glu Gly 425 430 435	1711
acg ccg ctt cct gat att gag tgg atg ata tgc aaa gat att aag aaa Thr Pro Leu Pro Asp Ile Glu Trp Met Ile Cys Lys Asp Ile Lys Lys 440 445 450 455	1759
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gtg act ttc gcc aaa gtg gag gag acc atc gcc gtg cga tgc ctg gct Val Thr Phe Ala Lys Val Glu Glu Thr Ile Ala Val Arg Cys Leu Ala 490 495 500	1903
aag aat ctc ctt gga gct gag aac cga gag ctg aag ctg gtg gct ccc Lys Asn Leu Leu Gly Ala Glu Asn Arg Glu Leu Lys Leu Val Ala Pro 505 510 515	1951
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Val Ile Val Ile Ile Ser Leu Ile Val Leu Val Val Ile Trp Lys Gln	
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Lys Pro Arg Tyr Glu Ile Arg Trp Arg Val Ile Glu Ser Ile Pro Tyr	
555 560 565	
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Ile Tyr Val Asp Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe	
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Pro Arg Asp Gly Leu Val Leu Gly Arg Val Leu Gly Ser Gly Ala Phe	
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Val Met Lys Val Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser	
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gaa aaa caa gct ctc atg tct gaa ctg aag ata atg act cac ctg ggg	2335
Glu Lys Gln Ala Leu Met Ser Glu Leu Lys Ile Met Thr His Leu Gly	
635 640 645	
cca cat ttg aac att gta aac ttg ctg gga gcc tgc acc aag tca ggc	2383
Pro His Leu Asn Ile Val Asn Leu Leu Gly Ala Cys Thr Lys Ser Gly	
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Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn	
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Tyr Leu His Lys Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys	
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Asp Met Lys Gln Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg	
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Lys Glu Val Ser Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg	
745 750 755	
cca gcc tca tat aag aag aaa tct atg tta gac tca gaa gtc aaa aac	2719
Pro Ala Ser Tyr Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn	
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ctc ctt tca gat gat aac tca gaa ggc ctt act tta ttg gat ttg ttg	2767



Leu Leu Ser Asp Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu	780	785	790	
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Ser Phe Thr Tyr Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys	795	800	805	
aat tgt gtc cac cgt gat ctg gct gct cgc aac gtc ctc ctg gca caa				2863
Asn Cys Val His Arg Asp Leu Ala Arg Asn Val Leu Leu Ala Gln	810	815	820	
gga aaa att gtg aag atc tgt gac ttt ggc ctg gcc aga gac atc atg				2911
Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met	825	830	835	
cat gat tcg aac tat gtg tcg aaa ggc agt acc ttt ctg ccc gtg aag				2959
His Asp Ser Asn Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys	840	845	850	855
tgg atg gct cct gag agc atc ttt gac aac ctc tac acc aca ctg agt				3007
Trp Met Ala Pro Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu Ser	860	865	870	
gat gtc tgg tct tat ggc att ctg ctc tgg gag atc ttt tcc ctt ggt				3055
Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly	875	880	885	
ggc acc cct tac ccc ggc atg atg gtg gat tct act ttc tac aat aag				3103
Gly Thr Pro Tyr Pro Gly Met Met Val Asp Ser Thr Phe Tyr Asn Lys	890	895	900	
atc aag agt ggg tac cgg atg gcc aag cct gac cac gct acc agt gaa				3151
Ile Lys Ser Gly Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu	905	910	915	
gtc tac gag atc atg gtg aaa tgc tgg aac agt gag ccg gag aag aga				3199
Val Tyr Glu Ile Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg	920	925	930	935
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Pro Ser Phe Tyr His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly	940	945	950	
caa tat aaa aag agt tat gaa aaa att cac ctg gac ttc ctg aag agt				3295
Gln Tyr Lys Lys Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser	955	960	965	
gac cat cct gct gtg gca cgc atg cgt gtg gac tca gac aat gca tac				3343
Asp His Pro Ala Val Ala Arg Met Arg Val Asp Ser Asp Asn Ala Tyr	970	975	980	
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Ile Gly Val Thr Tyr Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu	985	990	995	
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Gly Gly Leu Asp Glu Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile	1000	1005	1010	
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Gly Lys Arg Asn Arg His Ser Ser Gln Thr Ser Glu Glu Ser Ala			
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Ile Glu Thr Gly Ser Ser Ser Ser Thr Phe Ile Lys Arg Glu Asp			
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg  
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Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu  
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Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
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225

230

235

240

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Ser Trp Gln Tyr Pro Met Ser Glu Glu Glu Ser Ser Asp Val Glu Ile			
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Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr	305	310	315
Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val	325	330	335
Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn	340	345	350
Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu	355	360	365
Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala	370	375	380
Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp	385	390	395
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Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser  
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Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr  
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Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met  
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Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile  
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Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp  
 465 470 475 480

Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr  
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Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg  
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Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Leu Thr Val Ala  
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Leu Val Val Ile Trp Lys Gln Lys Pro Arg Tyr Glu Ile Arg Trp Ile  
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Ser Pro Asp Gly His Glu Tyr Ile Tyr Val Asp Pro Met Gln Leu Pro  
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Val Leu Gly Ser Gly Ala Phe Gly Lys Val Val Glu Gly Thr Ala Tyr  
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Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val Ala Val Lys Met Leu  
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Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asp  
850 855 860

Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu  
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Pro Glu Glu Glu Asp Leu Gly Lys Arg Asn Arg His Ser Ser Gln  
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Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly Ser Ser Ser Ser Thr  
                   1040                                  1045                                  1050

Phe Ile Lys Arg Glu Asp Glu Thr Ile Glu Asp Ile Asp Met Met  
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Gln Leu Ser Leu Pro Ser Ile Leu Pro Asn Glu Asn Glu Lys Val Val	
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Arg Asn Glu Glu Asn Asn Ser Gly Leu Phe Val Thr Val Leu Glu Val	
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Ser Ser Ala Ser Ala Ala His Thr Gly Leu Tyr Thr Cys Tyr Tyr Asn	
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His Thr Gln Thr Glu Glu Asn Glu Leu Glu Gly Arg His Ile Tyr Ile	
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Tyr Leu Val Ile Val Glu Asp Asp Asp Ser Ala Ile Ile Pro Cys Arg	
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aca act gat ccc gag act cct gta acc tta cac aac agt gag ggg gtg	895
Thr Thr Asp Pro Glu Thr Pro Val Thr Leu His Asn Ser Glu Gly Val	
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Val Gly Pro Tyr Ile Cys Glu Ala Thr Val Lys Gly Lys Lys Phe Gln	
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Thr Ile Pro Phe Asn Val Tyr Ala Leu Lys Ala Thr Ser Glu Leu Asp	
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Ile Lys Val Pro Ser Ile Lys Leu Val Tyr Thr Leu Thr Val Pro Glu	
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Ala Thr Val Lys Asp Ser Gly Asp Tyr Glu Cys Ala Ala Arg Gln Ala	
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Asn Leu His Glu Val Lys His Phe Val Val Glu Val Arg Ala Tyr Pro	
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Pro Pro Arg Ile Ser Trp Leu Lys Asn Asn Leu Thr Leu Ile Glu Asn	
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ctc act gag atc acc act gat gtg gaa aag att cag gaa ata agg tat	1519
Leu Thr Glu Ile Thr Thr Asp Val Glu Lys Ile Gln Glu Ile Arg Tyr	
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cga agc aaa tta aag ctg atc cgt gct aag gaa gaa gac agt ggc cat	1567
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Tyr Thr Ile Val Ala Gln Asn Glu Asp Ala Val Lys Ser Tyr Thr Phe	
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Cys Thr Lys Ser Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr	
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Ser Glu Val Lys Asn Leu Leu Ser Asp Asn Ser Glu Gly Leu Thr	
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Val Leu Leu Ala Gln Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu	
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg  
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Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu  
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Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu  
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Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
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Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu



100

105

110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe  
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Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp  
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Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr  
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Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln  
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Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr  
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Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu  
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Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val  
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Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn  
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/ Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys  
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Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val  
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Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr  
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Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys  
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Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val  
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Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn  
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Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu  
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Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala  
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Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp  
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Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser  
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Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr  
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Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met  
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Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile  
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Val Ile Glu Ser Ile Ser Pro Asp Gly His Glu Tyr Ile Tyr Val Asp  
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Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val  
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Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys  
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Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro  
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Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr  
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His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys  
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1080

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 Arg Ser Lys Leu Lys Leu Ile Arg Ala Lys Glu Glu Asp Ser Gly His  
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tat act att gta gct caa aat gaa gat gct gtg aag agc tat act ttt 1615  
 Tyr Thr Ile Val Ala Gln Asn Glu Asp Ala Val Lys Ser Tyr Thr Phe  
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gaa ctg tta act caa gtt cct tca tcc att ctg gac ttg gtc gat gat 1663  
 Glu Leu Leu Thr Gln Val Pro Ser Ser Ile Leu Asp Leu Val Asp Asp  
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 His His Gly Ser Thr Gly Gly Gln Thr Val Arg Cys Thr Ala Glu Gly  
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 Thr Pro Leu Pro Asp Ile Glu Trp Met Ile Cys Lys Asp Ile Lys Lys  
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 Val Thr Phe Ala Lys Val Glu Glu Thr Ile Ala Val Arg Cys Leu Ala  
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aag aat ctc ctt gga gct gag aac cga gag ctg aag ctg gtg gct ccc 1951

Lys	Asn	Leu	Leu	Gly	Ala	Glu	Asn	Arg	Glu	Leu	Lys	Leu	Val	Ala	Pro		
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acc	ctg	cgt	tct	gaa	ctc	acg	gtg	gct	gct	gca	gtc	ctg	gtg	ctg	ttg		1999
Thr	Leu	Arg	Ser	Glu	Leu	Thr	Val	Ala	Ala	Ala	Val	Leu	Val	Leu	Leu		
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gtg	att	gtg	atc	atc	tca	ctt	att	gtc	ctg	gtt	gtc	att	tgg	aaa	cag		2047
Val	Ile	Val	Ile	Ile	Ser	Leu	Ile	Val	Leu	Val	Val	Ile	Trp	Lys	Gln		
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Lys	Pro	Arg	Tyr	Glu	Ile	Arg	Trp	Xaa	Xaa	Xaa	Xaa	Xaa	Ile	Xaa	Xaa		
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nnn	nnn	nnn	nnn	tat	att	tat	gtg	gac	ccg	atg	cag	ctg	cct	tat	gac		2143
Xaa	Xaa	Xaa	Xaa	Tyr	Ile	Tyr	Val	Asp	Pro	Met	Gln	Leu	Pro	Tyr	Asp		
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Ser	Arg	Trp	Glu	Phe	Pro	Arg	Asp	Gly	Leu	Val	Leu	Gly	Arg	Val	Leu		
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Gly	Ser	Gly	Ala	Phe	Gly	Lys	Val	Val	Glu	Gly	Thr	Ala	Tyr	Gly	Leu		
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Ser	Arg	Ser	Gln	Pro	Val	Met	Lys	Val	Ala	Val	Lys	Met	Leu	Lys	Pro		
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Thr	Ala	Arg	Ser	Ser	Glu	Lys	Gln	Ala	Leu	Met	Ser	Glu	Leu	Lys	Ile		
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Met	Thr	His	Leu	Gly	Pro	His	Leu	Asn	Ile	Val	Asn	Leu	Leu	Gly	Ala		
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Cys	Thr	Lys	Ser	Gly	Pro	Ile	Tyr	Ile	Ile	Thr	Glu	Tyr	Cys	Phe	Tyr		
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gga	gat	ttg	gtc	aac	tat	ttg	cat	aag	aat	agg	gat	agc	ttc	ctg	agc		2479
Gly	Asp	Leu	Val	Asn	Tyr	Leu	His	Lys	Asn	Arg	Asp	Ser	Phe	Leu	Ser		
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Pro	Ala	Asp	Glu	Ser	Thr	Arg	Ser	Tyr	Val	Ile	Leu	Ser	Phe	Glu	Asn		
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Asn	Gly	Asp	Tyr	Met	Asp	Met	Lys	Gln	Ala	Asp	Thr	Thr	Gln	Tyr	Val		
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ccc	atg	cta	gaa	agg	aaa	gag	gtt	tct	aaa	tat	tcc	gac	atc	cag	aga		2671
Pro	Met	Leu	Glu	Arg	Lys	Glu	Val	Ser	Lys	Tyr	Ser	Asp	Ile	Gln	Arg		



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Ser Glu Val Lys Asn Leu Leu Ser Asp Asp Asn Ser Glu Gly Leu Thr			
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Val Leu Leu Ala Gln Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu			
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Ile	Lys	Arg	Glu	Asp	Glu	Thr	Ile	Glu	Asp	Ile	Asp	Met	Met	Asp	
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<223> The 'Xaa' at location 560 stands for Lys, Asn, Arg, Ser, Thr,  
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Cys, or Phe.

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Cys, or Phe.

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Cys, or Phe.

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Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

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Cys, or Phe.

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Cys, or Phe.

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<223> The 'Xaa' at location 568 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

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<223> The 'Xaa' at location 570 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

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<223> The 'Xaa' at location 571 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

<220>  
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<223> The 'Xaa' at location 841 stands for Lys, Arg, Thr, or Ile.

<220>  
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<223> The 'Xaa' at location 842 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

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<223> The 'Xaa' at location 846 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

<220>

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<223> The 'Xaa' at location 847 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

<220>

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<223> The 'Xaa' at location 848 stands for Asn, Ser, Thr, Ile, Asp, Gly, Ala, Val, His, Arg, Pro, Leu, Tyr, Cys, or Phe.

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1				5					10					15	

Gly	Leu	Ser	Leu	Ile	Leu	Cys	Gln	Leu	Ser	Leu	Pro	Ser	Ile	Leu	Pro
			20				25						30		

Asn	Glu	Asn	Glu	Lys	Val	Val	Gln	Leu	Asn	Ser	Ser	Phe	Ser	Leu	Arg
			35				40					45			

Cys	Phe	Gly	Glu	Ser	Glu	Val	Ser	Trp	Gln	Tyr	Pro	Met	Ser	Glu	Glu
	50					55					60				

Glu	Ser	Ser	Asp	Val	Glu	Ile	Arg	Asn	Glu	Glu	Asn	Asn	Ser	Gly	Leu
65					70					75					80

Phe	Val	Thr	Val	Leu	Glu	Val	Ser	Ser	Ala	Ser	Ala	Ala	His	Thr	Gly
				85					90					95	

Leu	Tyr	Thr	Cys	Tyr	Tyr	Asn	His	Thr	Gln	Thr	Glu	Glu	Asn	Glu	Leu
			100					105					110		

Glu	Gly	Arg	His	Ile	Tyr	Ile	Tyr	Val	Pro	Asp	Pro	Asp	Val	Ala	Phe
			115				120					125			

Val	Pro	Leu	Gly	Met	Thr	Asp	Tyr	Leu	Val	Ile	Val	Glu	Asp	Asp	Asp
	130					135					140				

Ser	Ala	Ile	Ile	Pro	Cys	Arg	Thr	Thr	Asp	Pro	Glu	Thr	Pro	Val	Thr
145					150					155					160

Leu	His	Asn	Ser	Glu	Gly	Val	Val	Pro	Ala	Ser	Tyr	Asp	Ser	Arg	Gln
				165				170						175	

Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr  
 180 185 190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu  
 195 200 205

Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val  
 210 215 220

Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn  
 225 230 235 240

Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys  
 245 250 255

Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val  
 260 265 270

Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr  
 275 280 285

Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys  
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Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr  
 305 310 315 320

Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val  
 325 330 335

Val Glu Val Arg Ala Tyr Pro Pro Arg Ile Ser Trp Leu Lys Asn  
 340 345 350

Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu  
 355 360 365

Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala  
 370 375 380

Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp  
 385 390 395 400

Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser  
 405 410 415

Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr  
 420 425 430

Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met  
 435 440 445

Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile  
 450 455 460

Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp  
 465 470 475 480

Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr  
 485 490 495

Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg  
 500 505 510

Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Leu Thr Val Ala  
 515 520 525

Ala Ala Val Leu Val Leu Leu Val Ile Val Ile Ile Ser Leu Ile Val  
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Leu Val Val Ile Trp Lys Gln Lys Pro Arg Tyr Glu Ile Arg Trp Xaa  
 545 550 555 560

Xaa Xaa Xaa Xaa Ile Xaa Xaa Xaa Xaa Xaa Xaa Tyr Ile Tyr Val Asp  
 565 570 575

Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe Pro Arg Asp Gly  
 580 585 590

Leu Val Leu Gly Arg Val Leu Gly Ser Gly Ala Phe Gly Lys Val Val  
 595 600 605

Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val  
 610 615 620

Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala  
 625 630 635 640

Leu Met Ser Glu Leu Lys Ile Met Thr His Leu Gly Pro His Leu Asn  
 645 650 655



Ile Val Asn Leu Leu Gly Ala Cys Thr Lys Ser Gly Pro Ile Tyr Ile  
 660 665 670

Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys  
 675 680 685

Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys Pro Lys Lys Glu  
 690 695 700

Leu Asp Ile Phe Gly Leu Asn Pro Ala Asp Glu Ser Thr Arg Ser Tyr  
 705 710 715 720

Val Ile Leu Ser Phe Glu Asn Asn Gly Asp Tyr Met Asp Met Lys Gln  
 725 730 735

Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg Lys Glu Val Ser  
 740 745 750

Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala Ser Tyr  
 755 760 765

Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp  
 770 775 780

Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr  
 785 790 795 800

Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His  
 805 810 815

Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val  
 820 825 830

Lys Ile Cys Asp Phe Gly Leu Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 835 840 845

Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro  
 850 855 860

Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser  
 865 870 875 880

Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly Gly Thr Pro Tyr  
 885 890 895

Pro Gly Met Met Val Asp Ser Thr Phe Tyr Asn Lys Ile Lys Ser Gly

900

905

910

Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu Val Tyr Glu Ile  
 915 920 925

Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr  
 930 935 940

His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys  
 945 950 955 960

Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser Asp His Pro Ala  
 965 970 975

Val Ala Arg Met Arg Val Asp Ser Asp Asn Ala Tyr Ile Gly Val Thr  
 980 985 990

Tyr Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu Gly Gly Leu Asp  
 995 1000 1005

Glu Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile Ile Pro Leu Pro  
 1010 1015 1020

Asp Ile Asp Pro Val Pro Glu Glu Glu Asp Leu Gly Lys Arg Asn  
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Arg His Ser Ser Gln Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly  
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Ser Ser Ser Ser Thr Phe Ile Lys Arg Glu Asp Glu Thr Ile Glu  
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Asp Ile Asp Met Met Asp Asp Ile Gly Ile Asp Ser Ser Asp Leu  
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Val Glu Asp Ser Phe Leu  
 1085